



# Moving Michigan Forward

2040  
State Long-Range  
Transportation Plan



# Performance Based Planning and Programming

MDOT has actively implemented performance-based program development and asset management since 1997, when the State Transportation Commission (STC) established state trunkline pavement and bridge goals.

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2040 State Long-Range Transportation Plan



# Historic Measures

- Three primary areas of measurement
  - Pavement
  - Bridge
  - Safety
- Successful at setting and achieving goals



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# Integrated Call for Projects Process

- Implementing the Investment Strategy through program development
- Aligning program/project decisions with investment strategy
- Connect capital investments to achieving goals
- Extends implementation throughout MDOT

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2040 State Long-Range Transportation Plan



# MDOT Performance & Accountability

- Michigan Dashboard
  - Infrastructure Dashboard
- MDOT's Scorecard
- MDOT System Measures
- Asset Management Council
- FHWA Stewardship Agreement
- Good Government in Action

## Accountability

Road construction projects completed on time  
**99.7**  
%



Detail >

Road construction projects completed within budget  
**85**  
%



Detail >

<https://midashboard.michigan.gov/infrastructure>

[www.michigan.gov/mdot](http://www.michigan.gov/mdot)

## Moving Michigan Forward

2040 State Long-Range Transportation Plan



# State Long-Range Transportation Plan



**MDOT** Michigan Department of Transportation  
Transportation System Performance Measures

Last Updated 11/05/2014

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### 2014 System Performance Measures Report

The purpose of this report is to provide data on the condition and performance of Michigan's publicly-owned\* transportation system. This report represents the first phase of a multi-phased effort within MDOT and includes data that is readily available at this time.

\*All performance measures in this report refer to assets owned, maintained, or financed (in whole or in part) by the Michigan Department of Transportation.

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## Measures Listed by State Long Range Plan Goal Area (All measures are links.)

### Stewardship

- Improve and sustain 95% of all freeway bridges in good or fair condition.
- Sustain 85% of all non-freeway bridges on the trunkline system in good or fair condition.
- Reduce the number of trunkline bridges that are structurally deficient.
- Improve or sustain 90% of trunkline pavements in fair or better condition based on Sufficiency.
- Improve or sustain 90% of trunkline pavements in fair or better condition based on International Roughness Index.
- Improve or sustain 90% of trunkline pavements with a Remaining Service Life value of three years or higher.
- Increase the percentage of trunkline railroad crossings that are rated in fair or better condition.
- Maintain 100% of all tier 1 airport primary runway pavements in good or better condition.
- Minimize the portion of the rural transit and the specialized transit fleet that is operating past its useful life.
- Preserve existing intercity passenger rail transportation services.
- Preserve existing rural intercity bus access.
- Preserve existing local bus services including specialized transit service.
- Maintain 90% of all trunkline carpool parking lot pavements in good or fair condition.

### Safety and Security

- Reduce crash severity on all roadways, statewide.
- Reduce crash severity on the state trunklines.
- Reduce crash severity on the local roadways.
- Ensure that safety projects provide the maximum return for funding dollars.
- Enhance and increase protective measures and implement effective border continuity.

### System Improvement

- Increase percent of route miles along corridors of national/international significance having acceptable level of service.
- Expand MichiVan access.

### Efficient and Effective Operations

- Reduce Delays: Minimize disruption to mobility resulting from incidents.

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## 2040 State Long-Range Transportation Plan



# Driven by Excellence

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Watch for Adopt-A-Highway volunteers - Spring pickup begins April 25.

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News and Information

- Update: I-75 construction between Clintonville Road and M-15 in Oakland County
- MDOT to lift more weight restrictions in Lower Peninsula on April 22
- Ready for 2015 construction? Mi Drive app downloaded 40,000 times
- Bridge work at I-96 and US-127 in Lansing set to begin April 19
- Construction to install median cable barrier along US-23 south of I-94 set to begin this week

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MI Needs Greater Investment in Transportation Funding

I70 Toward Zero Deaths  
April 14, 2015  
185  
Traffic Deaths in Michigan this Year

## DRIVEN BY EXCELLENCE

### A Report on MDOT Accomplishments



# MDOT Scorecard

MiScorecard Performance Summary									
Business Unit: Transportation		Executive/Director Name: Kirk Steudle		Reporting Period: Jan 2015		Date Approved: 2/25/2015		90% of target 75% - 90% of target 75% of target	
Metric ID	Metric	Status	Progress	Target	Current	Previous	Frequency	Metric Definition	
<b>A Economic Growth</b>									
1	Commercial vehicle traffic mile	Yellow	=	Main/Increase	5,808 2013	5,818	CY Annually	Maintain or increase the number of commercial traffic miles in billions traveled on Michigan roads.	
2	Rail freight traffic in millions of tons	Red	📉	Main/Increase	54.6M 2012	56.8M	Every Other Year	Maintain or increase total freight in and out of Michigan.	
3	Passenger air service	Green	📈	Main/Increase	37.1M 2013	38.8M	CY Annually	Maintain or increase number of air passengers in and out of Michigan.	
4	U.S. trucking trade traffic through MI borders	Red	📉	Main/Increase	48.1% 2013	46.3%	CY Annually	Maintain or increase the percent of trucking trade traffic through Michigan's border crossings.	
5	Jobs created as part of the 5-year program	Red	📉	Main/Increase	13,225 2013	13,870	CY Annually	Maintain or increase the number of direct and indirect jobs sustained by highway investment.	
6	Create an Accelerated Rail Investment Plan for the Chicago-Detroit/Pontiac Corridor	Green	📈		Nov. 2014	N/A	CY Annually	Development of a multi-state Tier One BIS and Service Development Plan for implementation of accelerated passenger rail and increased round trip frequencies within the Chicago to Detroit/Pontiac rail corridor. These documents will provide sufficient information to support final decision making to fund and implement investments in the 300 mile corridor.	
<b>B Safety</b>									
7	Statewide crash fatality reduction	Red	📉	-3.4%/yr	951 +1.6% 2013	900	CY Annually	Reduce crash fatalities from 909 in 2011 to 750 in 2016.	
8	Statewide crash serious injury reduction	Yellow	📈	-3.4%/yr	5,283 -6.0% 2013	5,676	CY Annually	Reduce crash serious injuries from 5,706 in 2011 to 4,800 in 2016.	
9	Statewide total crashes	Red	📉	Reduce	289,081 2013	273,891	CY Annually	Reduce total statewide crashes.	
10	Cost savings from safety investments	Green	📈	5 yrs or less	3.0 yrs 2013	4.5 yrs	CY Annually	Average time of return for state trunkline safety improvement projects.	
11	Work zone crash fatality reduction	Green	📈	Reduce	19 2013	15	CY Annually	Reduce the number of work zone accident fatalities.	
12	Work zone crash serious injury	Red	📉	Reduce	107 2013	57	CY Annually	Reduce the number of work zone accident serious injuries.	
<b>C Condition</b>									
13a	Sufficiency surface condition	Yellow	=	90%	78.0% 2013	78.8%	CY Annually	Improve or sustain 90% of trunkline pavements in fair or better condition based on sufficiency.	
13b	International roughness index	Green	📈	90%	94% 2013	95%	CY Annually	Improve or sustain 90% of trunkline pavements in fair or better condition.	
13c	Remaining service life	Yellow	📉	90%	80% 2013	87%	CY Annually	Improve or sustain 90% of trunkline pavements with remaining service life value of three years or higher.	
13d	FASER	Yellow	=	Improve	66.8% 2013	66.4%	CY Annually	Improve percent of paved Federal aid roads (both trunkline and local roads) in good or fair condition.	
13e	Predicting pavement condition	Green	=	82.4%	86.8% 2012		CY Annually	Percent of trunkline pavements with a remaining service life value of 3 years or higher. Maintain pavement system condition within 1.0% of the predicted condition based on available funds.	
14a	Freeway bridges	Green	📈	95%	94.3% 2013	95.0%	CY Annually	Improve and sustain 95% of all freeway bridges in fair or good condition.	
14b	Non-freeway bridges	Green	📈	95%	94.0% 2013	92.9%	CY Annually	Sustain 95% of all non-freeway bridges on the trunkline system in fair or good condition.	
14c	Structurally deficient bridges	Green	📈	Reduce	5.8% 2013	6.4%	CY Annually	Reduce the percent of trunkline bridges that are structurally deficient.	
14d	Complete trunkline bridge inspections	Green	=	100%	99.2% 2013	99.7%	CY Annually	Complete 100% of trunkline bridge inspections.	
14e	Predicting bridge condition	Green	📈	94.6%	94.2% 2013	93.7%	CY Annually	Percent of trunkline bridges in good or fair condition; maintain bridge system condition within 5% of the predicted condition based on available funds.	
15a	Bus transit level of service; passengers	Green	📉	<5% decline	-2.10% 2013	-1.5%	CY Annually	Maintain existing service level as indicated by the percent change from year to year.	
15a	Bus transit level of service; hours	Green	📉	<5% decline	-1.76% 2013	-0.97%	CY Annually	Maintain existing service level as indicated by the percent change from year to year.	
15a	Bus transit level of service; miles	Green	📉	<5% decline	-2.80% 2013	-0.99%	CY Annually	Maintain existing service level as indicated by the percent change from year to year.	
15b	Age of rural transit fleet	Green	📈	20%	19% 2014	21%	CY Annually	The highest percent of any one rural or specialized transit fleet that is past its useful life.	
15c	Intercity passenger rail level of service	Green	📈	Within 10%	+6% 2013	-3.9%	CY Annually	Keep passenger rail ridership trends in Michigan within 10% or better of national trends.	
16	Improve or sustain tier 1 airport primary runway pavements	Yellow	=	100%	82% 2013	84%	CY Annually	Maintain 100% of all tier 1 airport primary runway pavements in good condition or better.	
17	Improve or sustain carpool lot pavement condition	Green	=	90%	95% 2014	95%	CY Annually	Maintain 90% of all trunkline carpool parking lot pavements in good or fair condition.	
<b>D Accountability</b>									

18a	Letting trunkline projects on time by dollars	Yellow	📈	90%	85.0% 2013	87.4%	PY Annually	Annual percent of dollars let meeting benchmarked yearly letting schedule.	
18	Deliver approved projects	Green	📈	95%	81.03% 2013	82.7%	PY Annually	Deliver 95% of projects approved for funding by the State Transportation Commission.	
10a	Letting trunkline projects on time by job numbers	Green	📈	90%	87.4% 2013	90.4%	PY Annually	Annual percent of jobs meeting benchmarked yearly letting schedule.	
10b	Projects completed on time	Green	📈	100%	103.0% Aug 2014	103.0%	CY Annually	Annual percent of construction projects completed early or within the original contract time, or within the contract time that was extended without isolated damages.	
<b>E Mobility</b>									
23	Manage traffic incidents timely	Green	📈	75%	83.9% November 2014	83.3%	Monthly	75% or greater with less than 120 minute delay.	
21	Peak-Hour Winter Travel Speed	Green	=	80%	87.5% 11-2013 thru 3-2014		CY Annually	Maintain traffic speeds within 10 mph of normal speeds 80% of the time when a storm event impacts the morning peak.	
<b>F Customers</b>									
22	Transport permit response time	Green	📈	Within 4 hours	95.0% December 2014	94.0%	Monthly	Single issue transport permits in less than 4 hours.	
23	Increase public perception of agency	Green	📈	80%	74% 2013	73%	CY Annually	Overall increase in perception of how MDOT is performing.	
<b>G Financial Health</b>									
24	Capture all federal aid	Green	📈	100%	100% 2013	100%	PY Annually	Capture all federal aid plus redistribution.	
25	Keep project costs within budgeted amount	Yellow	📉	Under 5%	8.18% Aug 2013	87.7%	CY Annually	Keeping project costs per project under or within 5% of budget.	
26	Deliver total trunkline construction program within budget	Green	=	Within 5%	-1.85% 2012		CY Annually	The aggregate of trunkline projects processed through construction disposed delivered within 5% or less of this contracted amount.	
27	Accuracy of final engineer's estimates	Green	📈	50%	53.0% 2014	63.8%	PY Annually	50% within plus or minus 10% of bid.	
28	Contain administrative costs	Green	📈	Less than 10%	8.4% 2013	7.9%	PY Annually	Less than 10% of total budget.	
29	Maintain/increase bond rating	Green	=	AA or greater	AA 2013	AA+	CY Annually	Maintain/increase rating to AA or greater.	
30	Contain cost service as percent of budget	Green	📈	Less than 25%	18.8% 2013	21.7%	PY Annually	Less than 25% of budget costs.	
<b>H Environmental Stewardship</b>									
31	Increase alternate fuel vehicles in MDOT fleet	Green	📈	Increase	403 2013	383	CY Annually	Increase number of alternate fuel vehicles in fleet.	
<b>Employees</b>									
32	Employee engagement and loyalty	Yellow	=	Increase	43% 2013	43%	CY Annually	Increase the percent of employees that identify strongly with the organization, are loyal to MDOT, and plan to work at MDOT for the long term, defined as "champions" on annual Good Government Survey.	



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# Performance Measurement in Michigan

# Freeway Congestion & Mobility



2014

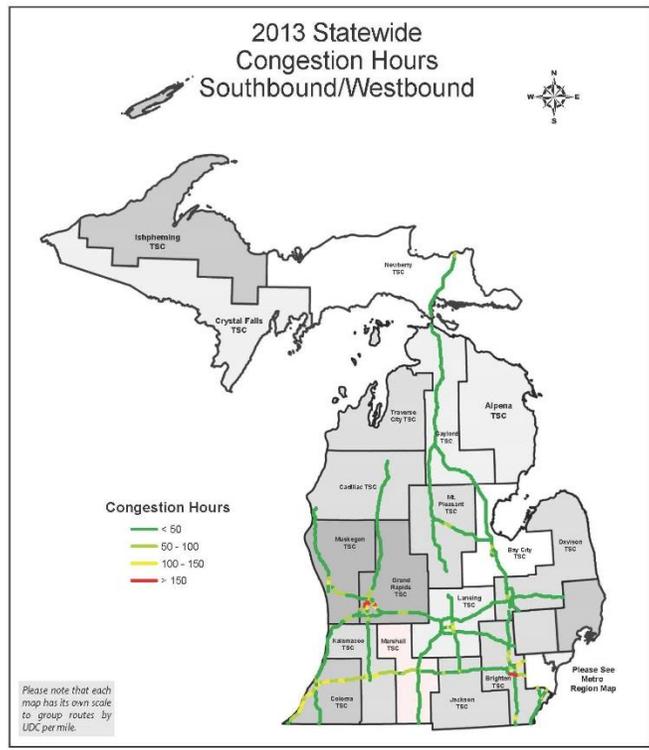
MICHIGAN DEPARTMENT OF TRANSPORTATION

## Congestion & Mobility Report

Freeway Performance Measures  
Chapter 1

### Congestion & Mobility Report Freeway Performance Measures

Figure 12



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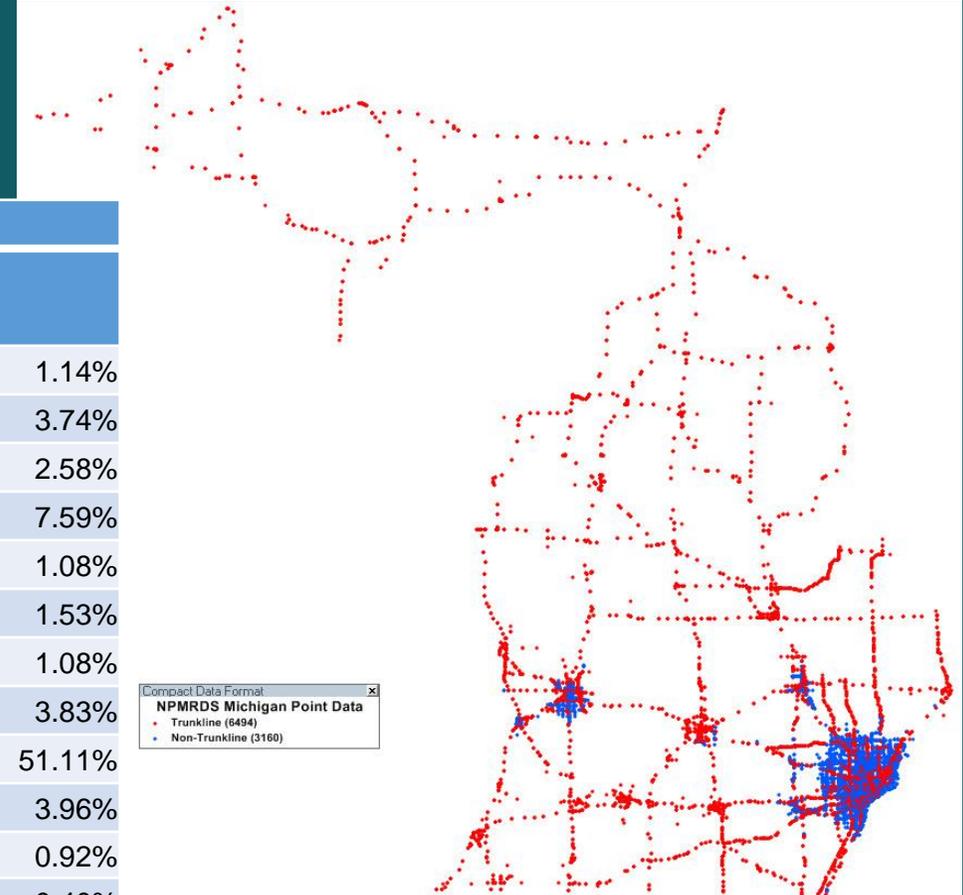


# National Performance Measures Research Data Set

## NPMRDS Michigan Point Data

NPMRDS-HERE Data Locations - Breakdown by Model Area

Model Area	Non-Trunkline	Trunkline	Total	
Battle Creek	0	110	110	1.14%
Flint	113	248	361	3.74%
Bay City/Midland/Saginaw	0	249	249	2.58%
Grand Rapids	303	430	733	7.59%
Holland	28	76	104	1.08%
Jackson	0	148	148	1.53%
Kalamazoo	0	104	104	1.08%
Lansing	28	342	370	3.83%
SEMCOG	2,538	2,396	4,934	51.11%
SEMCOG/WATS	142	240	382	3.96%
TwinCATS - Benton Harbor/St. Joseph	0	89	89	0.92%
Niles	0	39	39	0.40%
Traverse City	0	62	62	0.64%
Muskegon	2	137	139	1.44%
Not within an MPO Area	6	1,824	1,830	18.96%
<b>Total</b>	<b>3,160</b>	<b>6,494</b>	<b>9,654</b>	



# Safety

## State of Michigan STRATEGIC HIGHWAY SAFETY PLAN 2013-2016



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### MISSION:

*Improve traffic safety in Michigan by fostering effective communication, coordination, and collaboration among public and private entities.*

### VISION:

*Toward Zero Deaths on Michigan Roadways*

### GOALS:

*Reduce traffic fatalities from  
889 in 2011 to 750 in 2016*

*Reduce serious traffic injuries from  
5,706 in 2011 to 4,800 in 2016*



# Highway Safety Improvement Program

Michigan Department of Transportation: 2014 Annual Report

## Overview of General Highway Safety Trends



Michigan Statewide Safety Trends						
5 Year Rolling Average	2005_2009	2006_2010	2007_2011	2008_2012	2009_2013	% Diff
Fatalities	1,032	993	953	923	917	11.14%
Serious Injuries	7,388	6,881	6,492	6,121	5,833	21.05%
Fatality Rate	1.01	0.98	0.96	0.95	0.96	5.21%
Serious Injury Rate	7.25	6.83	6.56	6.33	6.10	15.85%
<b>MDOT Roads</b>						
5 Year Rolling Average	2005_2009	2006_2010	2007_2011	2008_2012	2009_2013	% Diff
Fatalities	436	416	409	395	396	9.30%
Serious Injuries	2,931	2,737	2,585	2,440	2,360	19.49%
Fatality Rate	0.86	0.83	0.83	0.80	0.80	6.60%
Serious Injury Rate	5.77	5.45	5.22	4.98	4.79	17.04%
<b>Local Roads</b>						
5 Year Rolling Average	2005_2009	2006_2010	2007_2011	2008_2012	2009_2013	% Diff
Fatalities	595	576	544	528	521	12.53%
Serious Injuries	4,431	4,121	3,887	3,664	3,458	21.96%
Fatality Rate	1.17	1.14	1.10	1.11	1.13	3.31%
Serious Injury Rate	8.69	8.15	7.88	7.69	7.47	13.96%



# Trunkline Goals



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Passenger Transportation

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► **Crash Reduction**

Safety Cost Savings

Risk/Vulnerability

Facilities Modernization

Access Expansion

Traffic Incident Mgmt.

Statewide Crash Reduction

Trunkline Crash Reduction

Local Crash Reduction

**AIM:**

Reduce crash severity on all roadways, statewide (Reduce fatality and injury crashes).

**Measure:**

Occurrences (#) per year (fatalities and serious injuries on all roadways, statewide).

**Definition:**

Reportable fatalities and injuries as defined by the [Michigan Vehicle Code](#) and occurring on all roadways, statewide.

**Standard:**

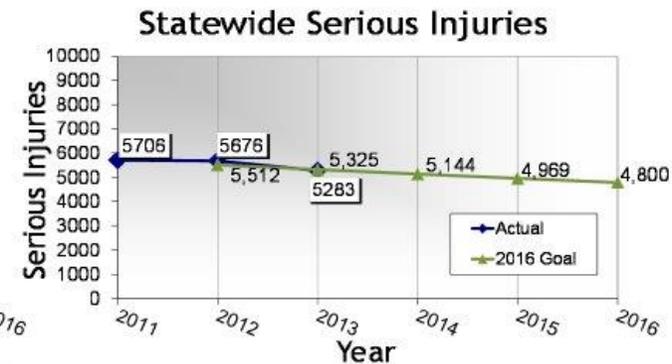
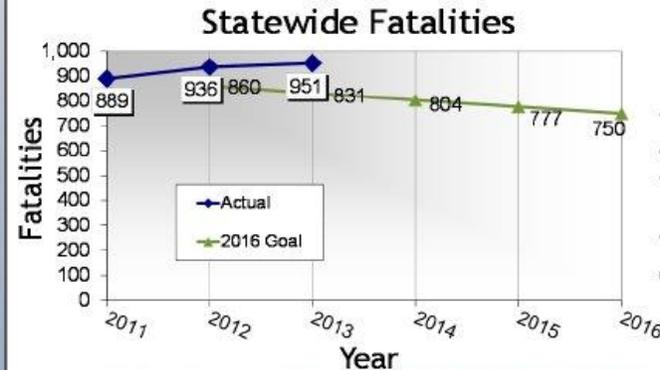
Reduce fatalities and serious injuries from 889 and 5,706 in 2011 to no more than 750 and 4,800 in 2016. This equates to a 3.4% reduction per year. [Strategic Highway Safety Plan ([SHSP](#)) goals]

**Status:**

951 Fatalities in 2013, a 1.6% increase from 936 in 2012.  
 5,283 Serious Injuries in 2013, a 6.9% reduction from 5,676 in 2012.

Data is collected within MDOT:	April
Data is Updated on this website:	August/September

**Last Reported Status:** See charts below:



Click link to view: [Statewide Crash Reduction Details](#)

Data updated annually, 3 months after end of previous year.

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# Local Transit System - Performance Management



	Status	Trend	Target	Current	Previous	Metric Definition
<b>Preserve or maintain passenger transportation system</b>						
<b>Bus transit level of service</b>						
<input type="checkbox"/> Passengers	Green	↓	< 5% decline	-2.1% (2013)	-1.5% (2012)	Maintain existing service level as indicated by the percent change from year to year
<input type="checkbox"/> Hours	Green	↑	< 5% decline	-1.76% (2013)	-0.97% (2012)	
<input type="checkbox"/> Miles	Green	↓	< 5% decline	-2.66% (2013)	-0.99% (2012)	
<b>Age of rural transit fleet</b>	Green	↑	20%	15% (2014)	21% (2013)	The highest percent of any one rural or specialized transit fleet that is past its useful life

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Green status = measure within target



# Agency-by-agency data available on our website

Michigan Public Transit Facts  
Performance Indicators  
2013

Transit Agency Info			Total Passengers	Total Eligible Expense	Total Miles	Total Vehicle Hours	Cost/Pass.	Cost/Mile	Cost/Hour	Pass./Veh.Hr.	Pass./Veh.Mile
Detroit Department of Transportation	2013	Reconciled	30,164,218	120,773,654	11,457,818	885,620	4.00	10.54	139.52	34.85	2.63
Detroit Transportation Corporation	2013	Reconciled	2,237,563	12,012,356	567,035	48,707	5.37	21.18	246.62	45.94	3.95
SMART	2013	Reconciled	9,808,841	81,490,788	14,680,941	857,580	8.31	5.55	95.02	11.44	0.67
SMART - Bedford	2013	Reconciled	22,017	473,225	113,580	4,970	21.49	4.17	95.22	4.43	0.19
SMART - Royal Oak	2013	Reconciled	4,044	91,368	15,724	1,846	22.59	5.81	49.50	2.19	0.26
Ann Arbor Area Transportation Authority	2013	Reconciled	6,683,713	25,634,519	3,733,821	250,197	3.84	6.87	102.46	26.71	1.79
Capital Area Transportation Authority	2013	Reconciled	11,798,596	36,601,051	6,058,654	444,319	3.10	6.04	82.38	26.55	1.95
Flint Mass Transportation Authority	2013	Reconciled	6,022,638	20,704,501	7,059,841	397,106	3.44	2.93	52.14	15.17	0.85
Interurban Transit Partnership (RAPID)	2013	Reconciled	12,503,928	38,362,127	6,378,781	508,360	3.07	6.01	75.46	24.60	1.96
Kalamazoo Metro Transit System	2013	Reconciled	3,096,843	13,578,978	2,182,578	184,367	4.38	6.22	73.85	16.80	1.42



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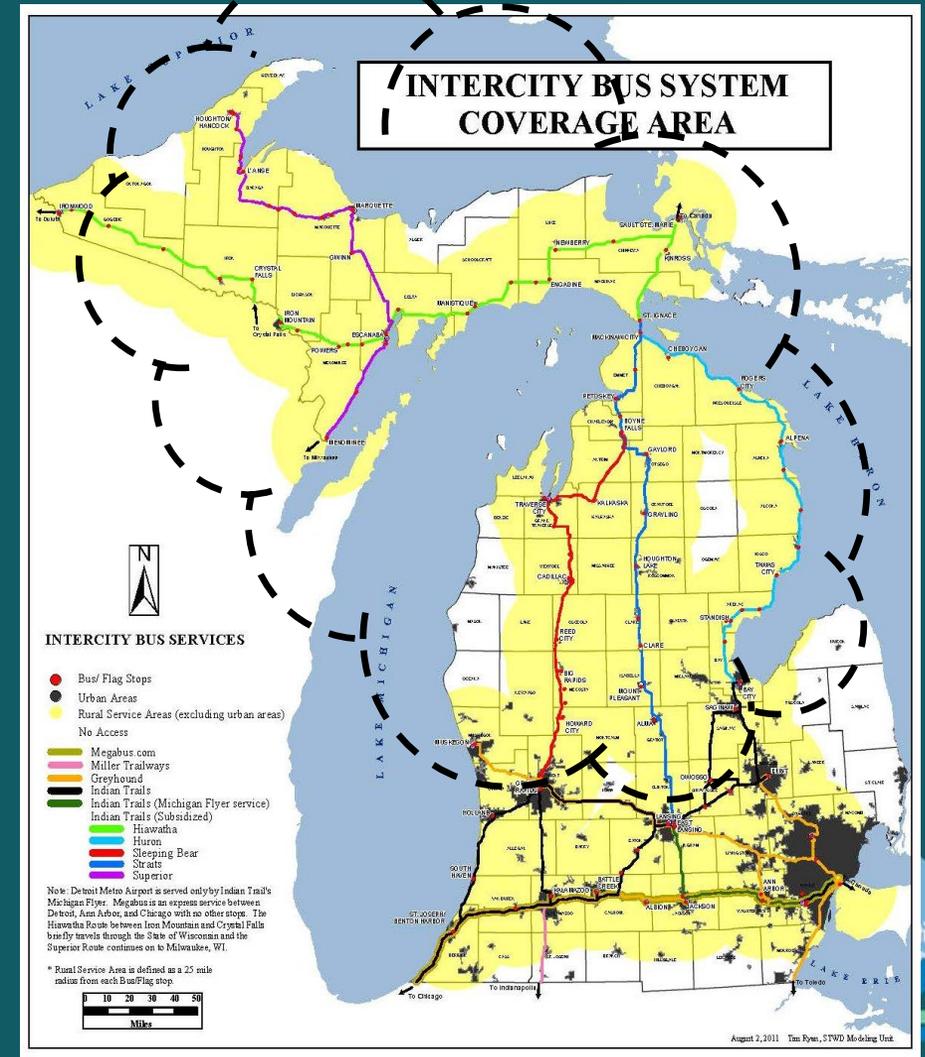
# Intercity Bus System

MDOT Goal: Preserve and maintain current level of service and infrastructure

Measurement: Percent of Rural Population within 25 Miles of an intercity bus stop

- Michigan: 81%
- National Average: 78%

ROUTE	FY2014 RIDERSHIP
Huron : Bay City – St. Ignace	8,030
Sleeping bear: Grand Rapids – Petoskey	15,694
Hiawatha: St. Ignace – Ironwood	11,556
Superior: Hancock - Milwaukee	21,833
Straits: Lansing – St. Ignace	17,088
<b>TOTAL</b>	<b>74,201</b>



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# Bridge

- Immediately address bridges of concern
- 95% of Freeway bridges in good or fair condition
- 85% of Non-Freeway bridges in good or fair condition



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# Bridge




Michigan Department of Transportation  
**Transportation System Performance Measures**

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### Bridges (Freeway) Condition Details

In 1998, our freeway bridge condition was 76.5%. Our condition as of July 25th, 2014 is 93.8%. We have plateaued in our progress toward the goal of 95% of our freeway bridges in good or fair condition.

*Trend projections are updated annually.*

## Statewide Freeway Bridge Condition

Year	Percent Bridges Good/Fair Condition
1998	76.5%
1999	77.5%
2000	78.5%
2001	80.0%
2002	81.5%
2003	82.5%
2004	84.0%
2005	85.5%
2006	86.0%
2007	87.5%
2008	88.5%
2009	90.0%
2010	91.0%
2011	93.0%
2012	93.8%
2013	94.0%
2014	93.8%
2015	94.0%
2016	93.5%
2017	93.0%
2018	92.5%
2019	92.0%
2020	91.5%
2021	91.0%
2022	90.5%
2023	90.0%
2024	89.5%

■ 1998 - 2014 Actual Data     ■ 2014 - 2024 Projected Data

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# Bridge





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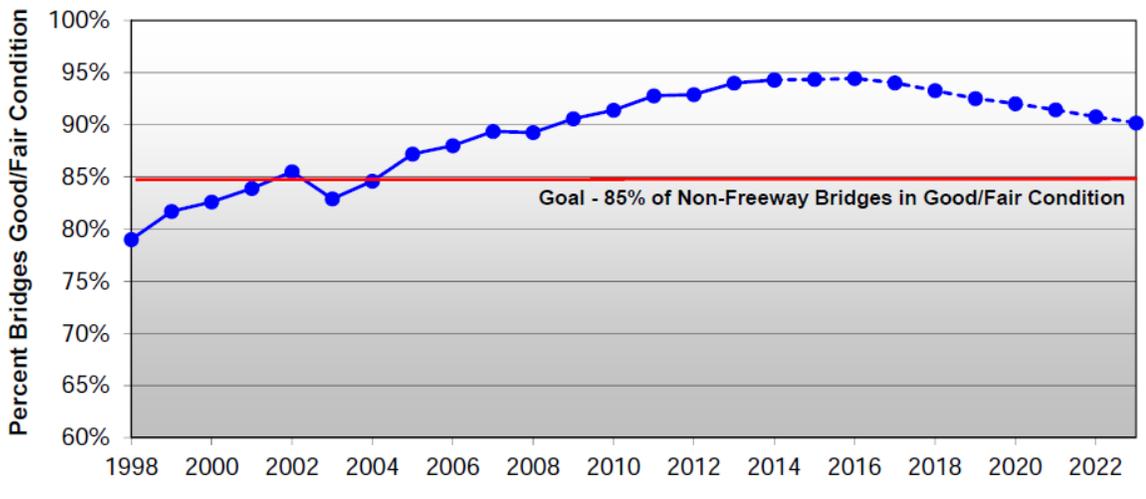
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- Traffic Incident Mgmt.

### Bridges (Non-Freeway) Condition Details

In 1998, our non-freeway trunkline bridge condition was 79%. Our condition as of July 25th, 2014 is 94.3%. We reached the goal of 85% of non-freeway bridges in good or fair condition in 2004. We have sustained the goal since then.

*Trend projections are updated annually.*

## Statewide Non-Freeway Bridge Condition



Year	Percent Bridges Good/Fair Condition
1998	79%
1999	81%
2000	82%
2001	83%
2002	85%
2003	83%
2004	84%
2005	87%
2006	88%
2007	89%
2008	89%
2009	90%
2010	91%
2011	92%
2012	93%
2013	93%
2014	94.3%
2015	94.3%
2016	94.3%
2017	94.3%
2018	93.5%
2019	92.5%
2020	92%
2021	91.5%
2022	91%
2023	90.5%
2024	90%

● 1998 - 2014 Actual Data     
 ● 2014 - 2024 Projected Data

Full Screen  
On/Off

Send Feedback

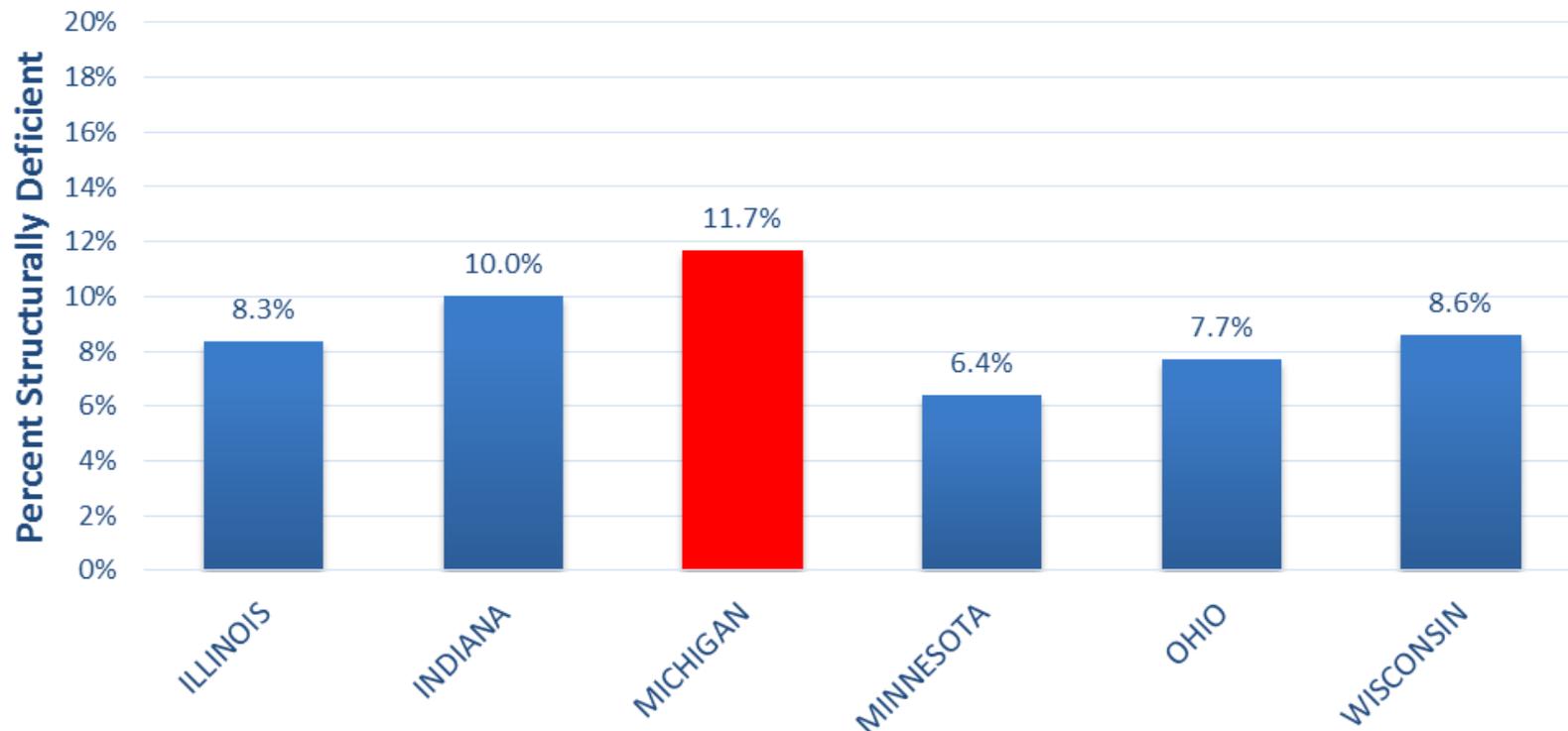
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# Bridge



2014 Percent Structurally Deficient Bridges  
All Highway Bridges (Great Lake States)



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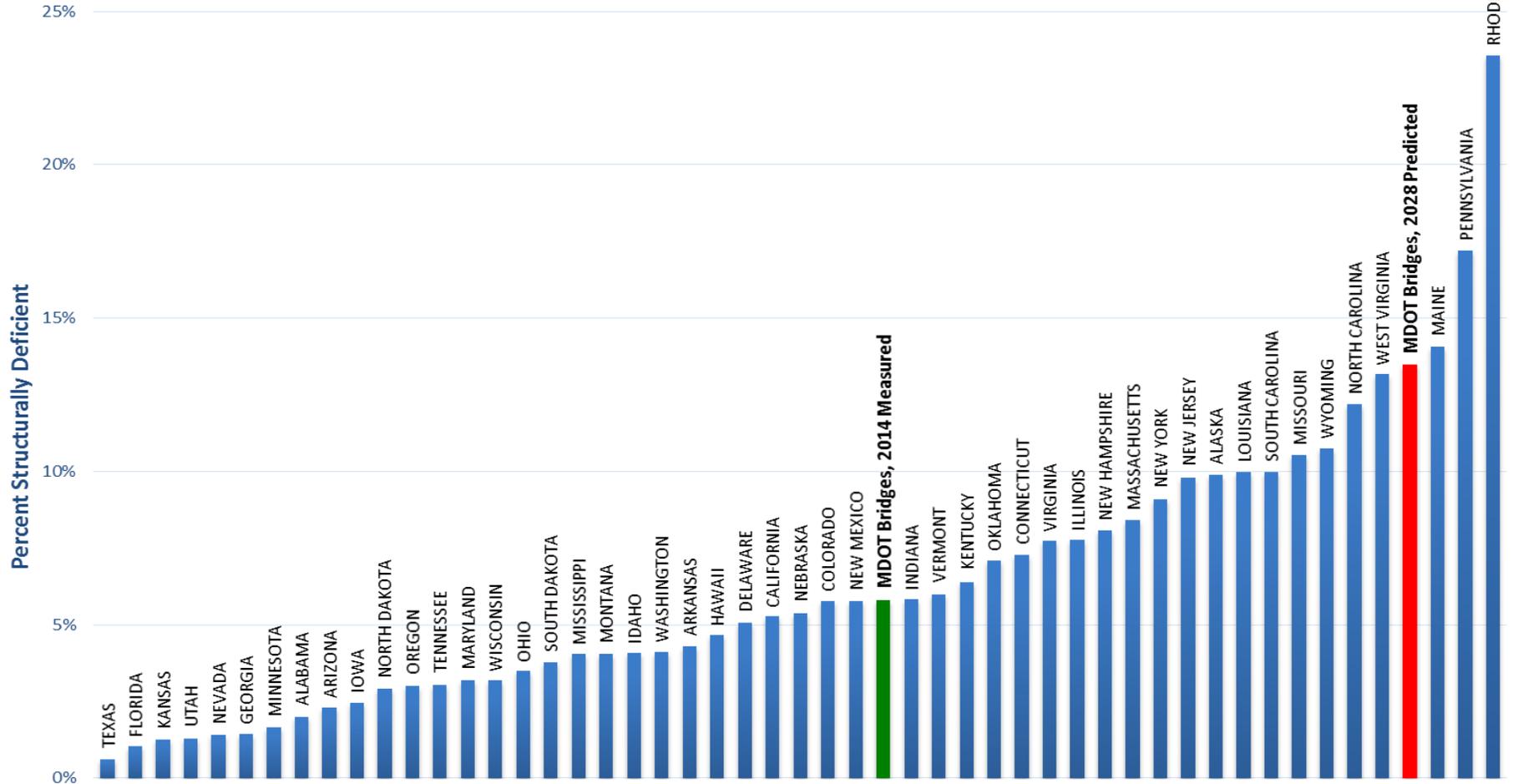


# Bridge



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National Comparison of State-Owned Structurally Deficient Bridges



# Pavement

- Goals- Based on RSL
  - 95% Good/Fair on Freeways
  - 85% Good/Fair on Non-Freeways
  - Combined 90% Good/Fair on all Trunkline
- Other Measures Considered
  - PASER
  - Sufficiency Surface Condition
  - Others (IRI, Faulting/Rutting, Distress Index, etc.)

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# Pavement Road Quality Forecasting System (RQFS)

**Remaining Service Life (RSL) established as MDOT performance measure**

- RQFS is a program level model used to forecast future MDOT pavement condition based on RSL
- RQFS is also used to determine funding need based on desired future condition
- “Fix Strategies” identify percentage of network to be repaired by fix type
  - Mix of fixes approach most effective

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# Pavement





**Michigan Department of Transportation**  
**Transportation System Performance Measures**

Last Updated 11/05/2014

Home [Back](#) [Zoom](#)

- Overview »
- Condition Trends »
- Measures by Goal Area »

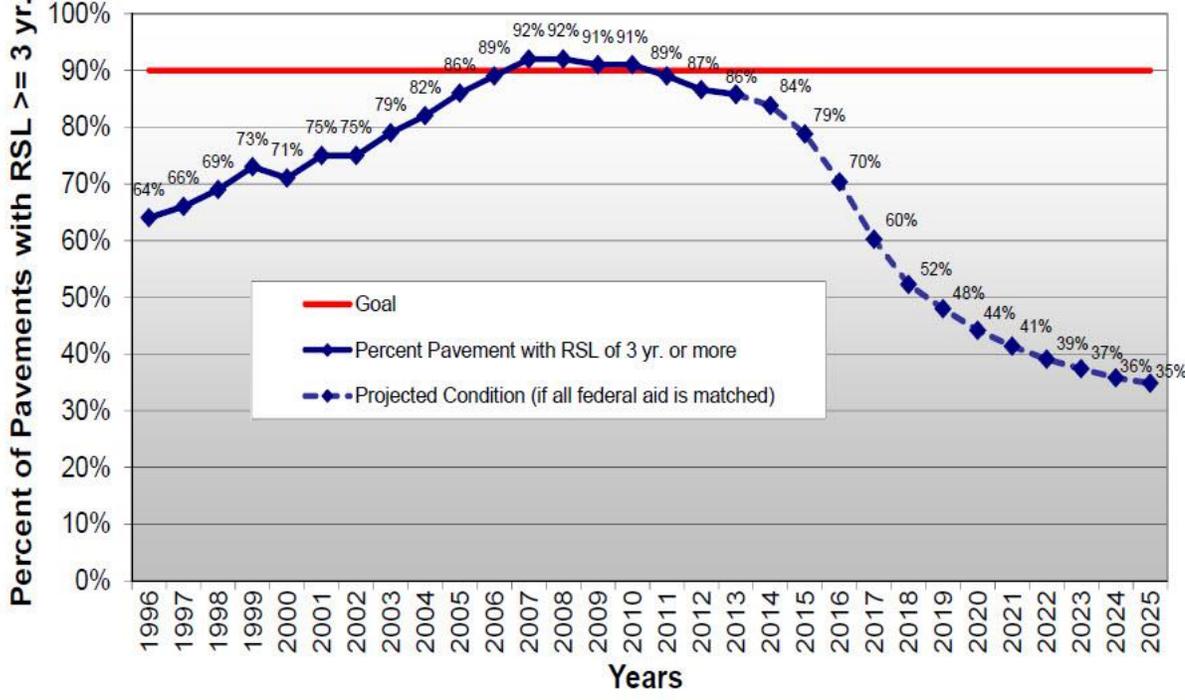
- Trunkline Bridges
- ▶ [Trunkline Pavement](#)
- Railroads
- Airport Pavement
- Passenger Transportation
- Carpool Lot Pavement
- Crash Reduction
- Safety Cost Savings
- Risk/Vulnerability
- Facilities Modernization
- Access Expansion
- Traffic Incident Mgmt.

**Trunkline Remaining Service Life Details**

Remaining service life (RSL) has been variously described as:

- “the time in age or traffic applications from initial construction or reconstruction to first major rehabilitation “
- “the future time and traffic until a critical condition is reached and rehab is performed.”
- “the life remaining in a pavement before a major rehabilitation or reconstruction is the most cost effective fix to apply”
- “the anticipated number of years that a pavement will be functionally and structurally acceptable with only routine maintenance.”

**Combined Freeway & Non-Freeway Pavement Condition**



Year	Actual Condition (%)	Projected Condition (%)
1996	64%	64%
1997	66%	66%
1998	69%	69%
1999	73%	73%
2000	71%	71%
2001	75%	75%
2002	75%	75%
2003	79%	79%
2004	82%	82%
2005	86%	86%
2006	89%	89%
2007	92%	92%
2008	92%	92%
2009	91%	91%
2010	91%	91%
2011	89%	89%
2012	87%	87%
2013	86%	86%
2014	84%	84%
2015	79%	79%
2016	70%	70%
2017	60%	60%
2018	52%	52%
2019	48%	48%
2020	44%	44%
2021	41%	41%
2022	39%	39%
2023	37%	37%
2024	36%	36%
2025	35%	35%

Full Screen

22

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# Transportation Asset Management Council

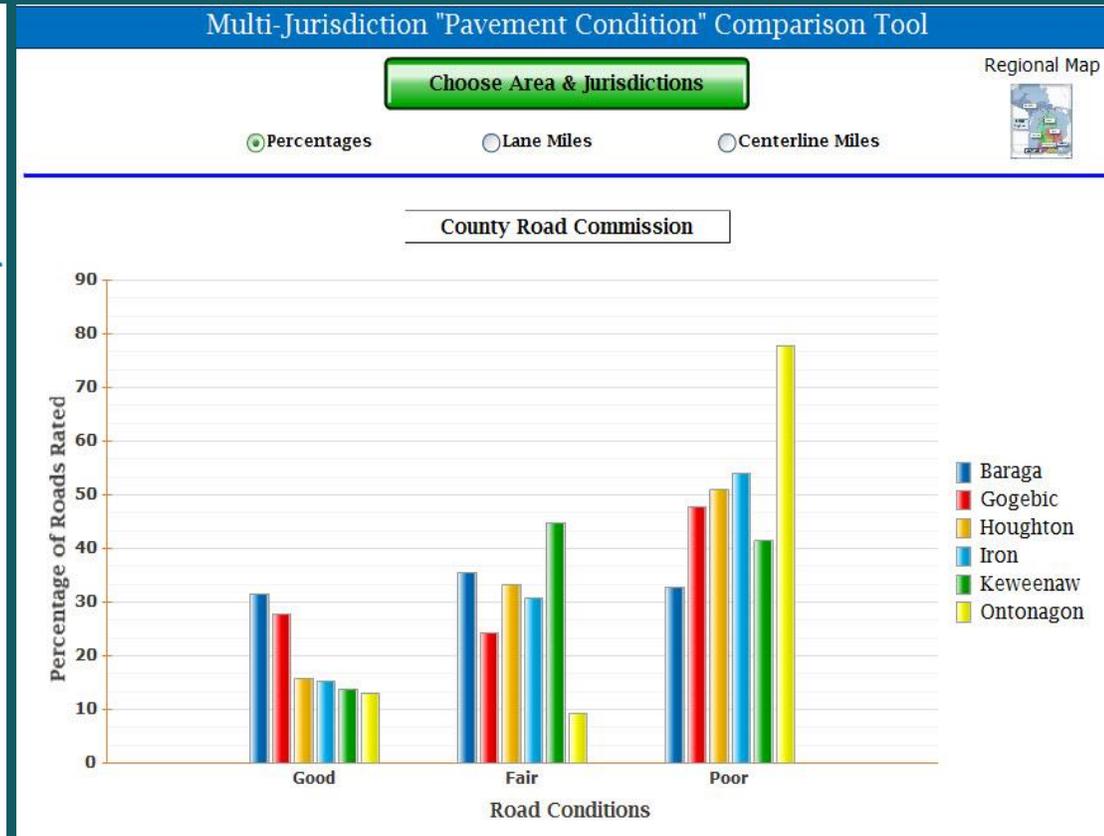
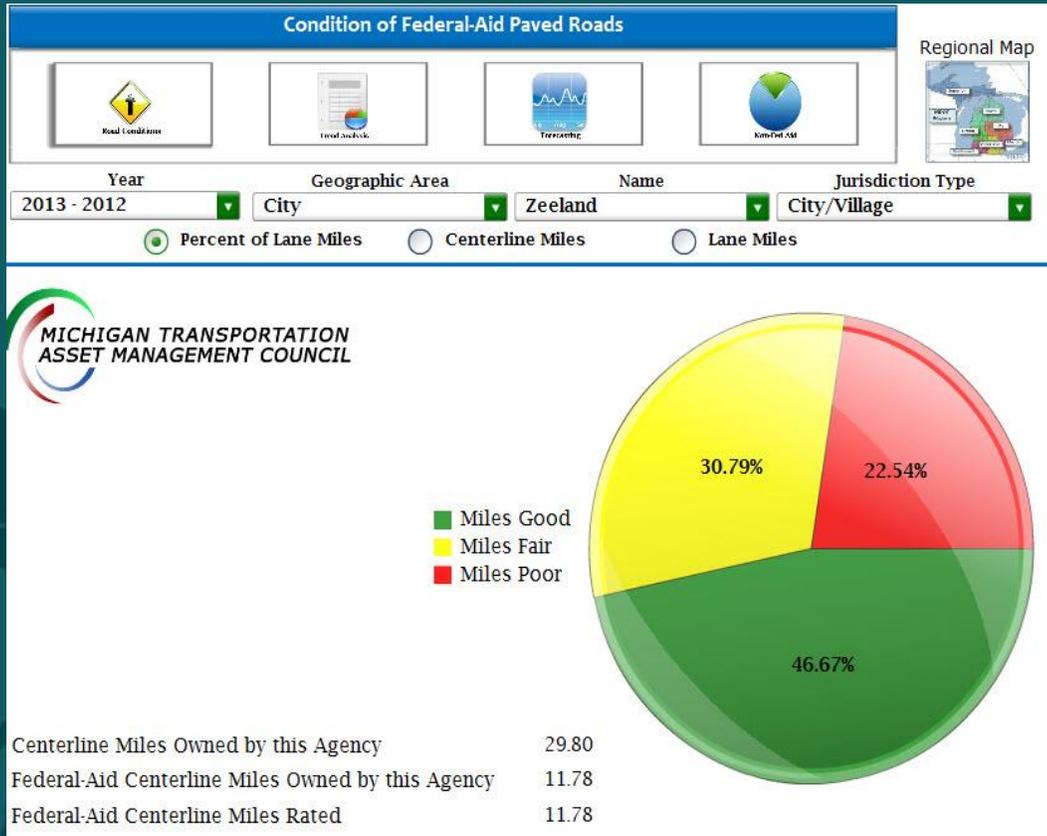
Maintains 6 Dashboards on a publicly accessible website

- Pavement Condition
- Bridge Condition
- Safety
- Traffic
- Maintenance
- Finance

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# Pavement Dashboard and Comparison Tool



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# Bridge Dashboard and Comparison Tool



Bridge Conditions



Bridge Conditions



Trend Conditions



Forecasting

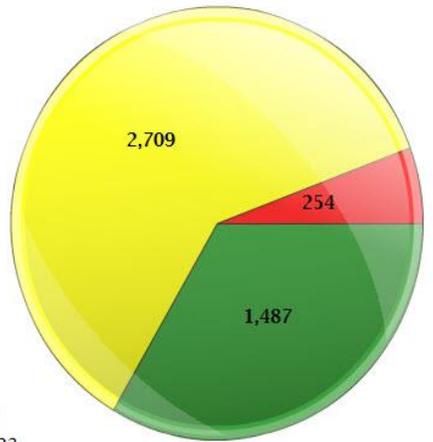


Regional Map

Year:  Geographic Area:  Name:  Category:

Number of Bridges   
  Total Deck Area (in sq. ft)   
  Structurally Deficient (SD) Deck Area





■ Bridges Good  
■ Bridges Fair  
■ Bridges Poor

Number of Bridges	4,450
Total Bridge Deck Area (in sq. ft)	50,717,723
Structurally Deficient Deck Area (in sq. ft)	4,007,111

Multi-Jurisdiction "Bridge Condition" Comparison Tool

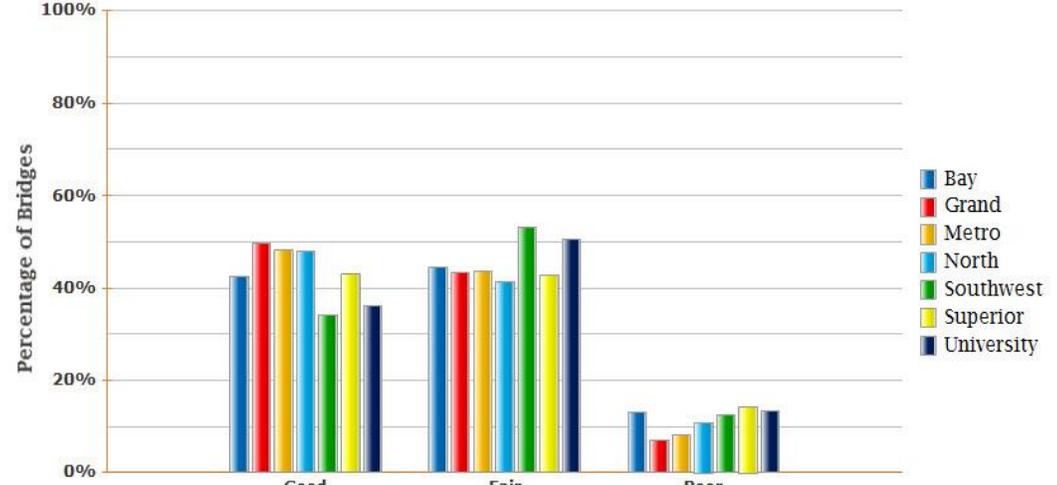
Note: Those agencies without bridges will not be listed.

Choose Area & Jurisdictions

Regional Map 

Number of Bridges   
  Percentage of Bridges   
  Total Deck Area (in sq. ft)   
  Structurally Deficient (SD) Deck Area

All Bridges



Bridge Conditions

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# Safety Dashboard



## Safety Dashboard

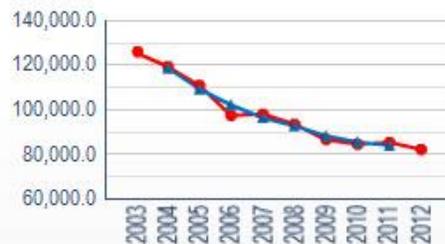
Geographic Area:   Regional Map  Jurisdiction:

Year	Total Crashes	Serious Crashes	Fatal Crashes: ↓	Total Crashes / 100M AVMT	Fatal Crashes / 100M AVMT	Fatal Crashes / 100,000 people	Fatal - NHS	Fatal - NHS / 100M AVMT
2003	125,445	1,836	181	615.1041	0.8875	3.5547	12	0.0588
2005	110,857	1,536	174	543.3142	0.8528	3.4173	9	0.0441
2007	98,082	1,359	157	482.4440	0.7722	3.0834	11	0.0541
2004	119,403	1,747	148	585.5012	0.7257	2.9066	11	0.0539
2006	97,439	1,396	147	478.9276	0.7225	2.8870	13	0.0639
2009	86,517	1,161	139	424.6595	0.6823	2.7299	16	0.0785
2012	82,112	998	136	403.6973	0.6686	2.6710	7	0.0344
2008	93,437	1,315	135	458.8249	0.6629	2.6513	11	0.0540
2010	84,396	1,068	131	415.4813	0.6449	2.5728	12	0.0591
2011	85,202	986	116	417.8208	0.5689	2.2782	9	0.0441

Crashes  Crashes / 100M AVMT  Crashes / 100,000 Population

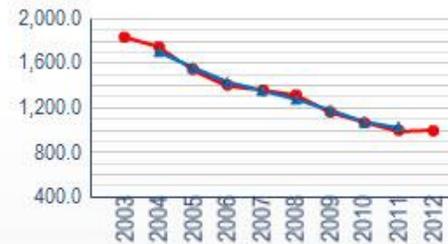
Total Crashes

● Total Crashes ▲ 3 Year Average



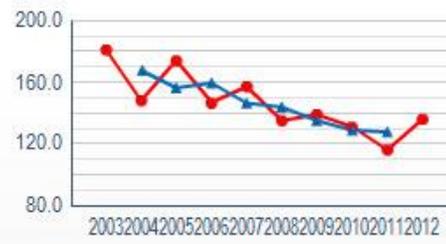
Serious Crashes

● Serious Crashes ▲ 3 Year Average



Fatal Crashes

● Fatal Crashes ▲ 3 Year Average



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# Interactive Map



Council ▾ Investment Reporting ▾ Data Access ▾ Education and Training ▾ Communication ▾

Search:   Enter a document or meeting name.

Navigation Info

Map Results

search address, city, zip, and more

**Layers**

Toggle layer visibility by clicking the corresponding checkbox.

- PASER - Road Condition
  - Most Current
  - 2014
  - 2013
  - 2012
  - 2011
  - 2010
  - 2009
  - 2008
- HPMS Sample Segments
- Bridge Condition
- TAMC Regions
- Traffic - NTFA
- Traffic - AADT
- Traffic - CADT

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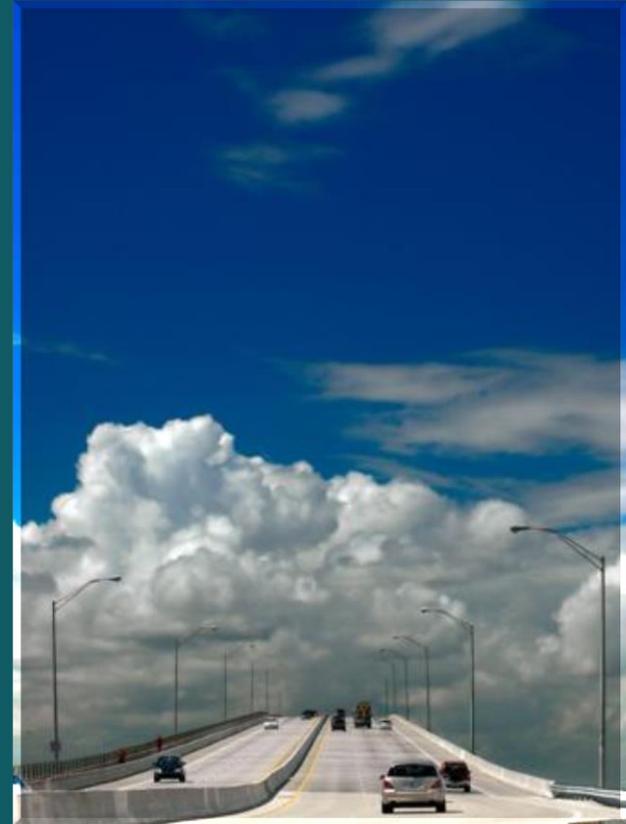




# Moving Ahead for Progress in the 21st Century Act

# Performance Management

- Performance measures & targets required for:
  - NHS Pavement/bridge conditions & performance
  - Fatalities & serious injuries
  - Traffic congestions
  - Mobile source emissions
  - Freight movement on interstate



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# Example

## Establish performance measures for pavement conditions and performance for the Interstate and NHS

6,428 Michigan Route Miles\*

- Interstate: 1,254
- Other Trunkline NHS: 3,973
- Non-Trunkline Route Miles: 1,201

*\*Route miles based upon 2013 HPMS submittal, rounded*



National Highway System: Michigan

U.S. Department of Transportation  
Federal Highway Administration

Eisenhower Interstate System	Census Urbanized Areas	Airport	Multipurpose Passenger Facility
Other NHS Routes	Department of Defense	Intercity Bus Terminal	Port Terminal
Non-Interstate STRAHNET Route	Water	Ferry Terminal	Truck/Rail Facility
STRAHNET Connector		Truck/Pipeline Terminal	AMTRAK Station
Intermodal Connector			Public Transit Station
Intermodal/STRAHNET Connector			
Unbuilt NHS Routes			
MAP-21 NHS Principal Arterials			

0 40 80 Miles  
0 90 180 Kilometers

Print: March 26, 2015



# Breakdown by Metropolitan Planning Organization (MPO)

MPO Area	Interstate NHS Route Miles	Other NHS Route Miles	Total NHS Route Miles
SEMCOG*	383.426	782.663	1,166.089
WATS-Ann Arbor	33.354	76.587	109.941
SCCOTS-Port Huron	52.502	12.840	65.342
GVMC-Grand Rapids	59.784	84.638	144.422
TCRPC-Lansing	104.190	70.372	174.562
GCMA-Flint	70.553	52.206	122.759
KATS-Kalamazoo	37.203	63.242	100.445
WestPlan-Muskegon	12.092	69.247	81.339
MACC-Holland	19.091	20.430	39.521
SMATS-Saginaw	31.240	58.122	89.362
BCTS-Bay City	16.322	33.036	49.358
MATS-Midland	0.000	57.405	57.405
JACTS-Jackson	31.938	45.918	77.856
BCATS-Battle Creek	16.499	20.962	37.461
SWMPC	31.169	43.035	74.204
	813.506	1,401.277	2,214.783

\*Totals include WATS and SCCOTS

Source: 2014 MI Geographic Framework

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# Integrating National Goals and Measures

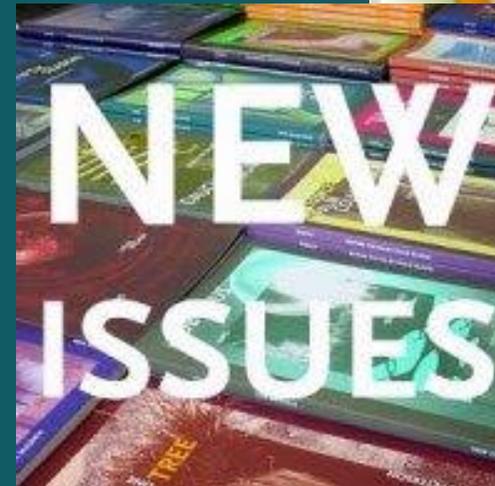
- Working together
  - Close collaboration between MDOT, MPO's and Transit providers will be critical to integrating the federal performance process into our processes.
- Challenges
  - Data Collection
  - Tools: adapting current tools, new tools

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# Performance Measurement an Ongoing Process

- New Programs
- New Issues or Concerns
- Recent Planning Documents
- Future Priorities
- National Priorities



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“Providing the highest quality integrated transportation services for economic benefit and improved quality of life.”

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